

# Dynamical localization for Delone-Anderson operators

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Delone-Anderson operators are used to study a particle moving in a medium with impurities that have a quasi-crystalline spatial configuration. A particular feature of quasi-crystals is the lack of translation invariance, which yields a break of ergodicity in the model. We prove suitable Wegner estimates and initial length scale estimates using, and emphasize the role of quantitative unique continuation principles in these estimates. As a consequence, we obtain dynamical localization at the bottom of the spectrum and a bound on the size of the localization interval in terms of the geometric parameters of the underlying Delone set. We conclude our study with a discussion on the existence of the integrated density of states for these models in the framework of randomly coloured Delone sets. This is joint work with F. Germinet and P. Müller.